Attorney's Docket No. 019519-342 0222 44
Application No. 10/022,244

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 3, line 9, with the following amended paragraph:

These are lithographic printing plate precursors which convert irradiated laser beam for imaging to heat by using a light-to-heat converting material (also, simply called "a light/heat converting material"), change the solubility in a developing solution of a light-sensitive layer by the generated heat, or heat-decompose a light-sensitive layer, or subject a light-sensitive layer to explosive abrupt removal (ablation) by sudden heating. When aluminum is used as the support of these lithographic printing plate precursors for heat mode CTP (hereinafter simply referred to as "heat mode photographic material"), sine since the heat conductivity of aluminum is high, abrupt heat release to the support side occurs and exothermic loss is generated, which is one of the causes of the reduction of sensitivity. Conversely speaking, it is expected that if the heat insulation of the support surface can be improved and heat release can be suppressed to the minimum, sensitivity can be increased by that portion.

Please replace the paragraph beginning on page 9, line 8, with the following amended paragraph:

However, in the method of enlarging the micro pores of the anodic oxide film, the sensitivity and the press life are improved but the smearing resistance (i.e., also, called "the staing stain resistance") is deteriorated. "Smearing resistance" here means the property of hardly generating smearing on the non-image area when printing is stopped in

703 836 2021 P.04/20

Attorney's Docket No. 019519-342
Application No. 10/022,244

Page 3

the middle of printing, and printing is restarted from the state of the lithographic printing plate being left as it is on the printing machine. On the other hand, in the method of sealing the micro pores, the smearing resistance is improved but the sensitivity and the press life are deteriorated. Accordingly, sufficiently satisfactory level is not achieved yet in either case.

Please replace the paragraph beginning on page 15, line 9, with the following amended paragraph:

It is sufficient that the pore diameter of the surface mouth area of the anodic oxide film of the lithographic printing plate precursor of the present invention should be from 0 to 30 nm, preferably from 5 to 20 nm. When it exceeds 30 nm, an image-forming layer and a sealing agent enter into the inside of the pore, as a result, the background smearing (i.e., scumming), the ink eliminability and the developing property on machine (alos also, called "the on-press developing property) are lowered.

Please replace the paragraph beginning on page 21, line 20, with the following amended paragraph:

The plane surface property of the aluminum sheet finished in thickness of from 0.1 to 0.5 mm through the above processes may be improved by correcting apparatus, such as a roller leveler or a tension leveller leveler. The improvement of a plane surface property may be performed after the aluminum sheet is cut to a sheet, but it is preferred to

Attorney's Docket No. 019519-342 Application No. 10/022,244

Page 4

perform the improvement of a plane surface property in the state of being wound up in coils to increase the productivity.

Please replace the paragraph beginning on page 25, line 21, with the following amended paragraph:

These aluminum sheets are subjected to the following surface treatment. The representative pre-treatments are the removal of a rolling oil from the surface of the sheet with solvents, e.g., trichlene and surfactants and the exposure of a clean aluminum surface of the sheet with alkali etchants, e.g., sodium hydroxide and potassium hydroxide. Specifically, as the solvent degreasing method, there are a method of using a petroleum solvent, e.g., gasoline, kerosine kerosene, benzine benzene, solvent naphtha and normal hexane, and a method of using a chlorine solvent, e.g., trichloroethylene, methylene chloride, perchloroethylene and 1,1,1-trichloroethane. As the alkali degreasing method, there are a method of using an aqueous solution of sodium salt, e.g., sodium hydroxide, sodium carbonate, sodium bicarbonate and sodium sulfate, a method of using an aqueous solution of silicate, e.g., sodium orthosilicate, sodium metasilicate, sodium disilicate and disodium trisilicate, and a method of using an aqueous solution of phosphate, e.g., sodium primary phosphate, sodium tertiary phosphate, sodium secondary phosphate, sodium tripolyphosphate, sodium pyrophosphate, and sodium hexametaphosphate. When the alkali degreasing method is used, there is the possibility that the surface of an aluminum sheet is dissolved according to the processing time and the processing temperature, therefore, it is necessary that the degreasing treatment is not accompanied by a dissolution phenomenon. In

Attorney's Docket No. 019519-342
Application No. 10/022.244

the degreasing method by surfactants, the aqueous solutions of an anionic surfactant, a cationic surfactant, a nonionic surfactant and an ampholytic surfactant are used, and various commercially available products can be used. As the methods of degreasing, an immersion method, a blasting method, and a rubbing method of rubbing an aluminum sheet with a cloth impregnated with a solution can be used. Ultrasonic waves can be used in an immersion method and a blasting method. With respect to the degreasing methods, for instance, JP-A-2-26793 can be referred to.

Please replace the paragraph beginning on page 36, line 17, with the following amended paragraph:

As the acid solution which is an electrolyte, besides nitric acid and hydrochloric acid, the electrolytes disclosed in U.S. Patents 4,671,859, 466,576, 4,661,219, 4,618,405, 462,628, 4,600,482, 4,566,960, 4,566,958, 4,566,959, 4,416,972, 4,374,710, 4,336,113, and 4,184,932 can also be used. The concentration of an acid solution is preferably from 0.5 to 2.5 wt% but from 0.7 to 2.0 wt% is especially preferred taking into consideration the use in the above smut removal. The temperature of the solution is preferably from 20 to 80°C and particularly preferably from 30 to 60°C.

Please replace the paragraph beginning on page 98, line 1, with the following amended paragraph:

Various kinds of additives can be added to the thermal negative type image-forming layer, if necessary. For example, polyfunctional monomers having two or more radical

703 836 2021 P.07/20

Attorney's Docket No. 019519-342 Application No. 10/022.244

polymerizable ethylenical ethylenically unsaturated double bonds in the molecule can be added. As such compounds, ethylene glycol di(meth)acrylate, diethylene glycol di(meth)acrylate, polyethylene glycol di(meth)acrylate, hexanediol di(meth)acrylate, trimethylolethane tri(meth)acrylate, trimethylolpropane tri(meth)acrylate, tri-, tetra- or hexa(meth)acrylate of pentaerythritol and dipentaerythritol can be exemplified. The addition amount of these polyfunctional monomers is 30 wt% or less in the thermal negative type image-forming layer.

Please replace the paragraph beginning on page 121, line 20, with the following amended paragraph:

The examples of the solvents used herein include ethylene dichloride, cyclohexanone, methyl ethyl ketone, methanol, ethanol, propanol, ethylene glycol monomethyl ether, 1-methoxy-2-propanol, 2-methoxyethylacetate, 1-methoxy-2-propylacetate, dimethoxyethane, methyl lactate, ethyl lactate, N,N-dimethylacetamide, N,N-dimethylformamide, tetramethylurea, N-methylpyrrolidone, dimethyl sulfoxide, sulforane sulfolane, γ-butyrolactone and toluene, but solvents are not limited thereto.

Please replace the paragraph beginning on page 137, line 9, with the following amended paragraph:

The aluminum support provided with the particle layer is preferably subjected to hydrophilization treatment. As the hydrophilization treatment, the method of treating the

BURNS DOANE

703 836 2021 P.08/20

/0/022, 2 Attorney's Docket No. 019519-342 Application No. 10/022,244

aluminum support with an alkali metal silicate as disclosed in U.S. Patents 2,714,066 and 3,181,461, the method of treating the aluminum support with a potassium fluorozirconate as disclosed in JP-B-36-22063, the method of treating the aluminum support with a polyvinyl phosphoic phosphoric acid as disclosed in U.S. Patent 4,153,461, the method of treating the aluminum support with an aqueous solution containing a phosphoric acid and an inorganic fluorine compound as disclosed in JP-A-9-244227, and the method of treating the aluminum support with an aqueous solution containing a titanium and a fluorine as disclosed in JP-A-10-252078 and JP-A-10-263411 can be exemplified. Of these methods, the method of treating with an alkali metal silicate and the method of treating with a polyvinyl phosphonic acid are preferred.

Please replace the paragraph beginning on page 139, line 18, with the following amended paragraph:

The concentration of the polyvinyl phosphoic phosphoric acid in the aqueous solution for use in the method of treating with a polyvinyl phosphoric phosphoric acid is from 0.01 to 10 wt%, preferably from 0.1 to 5 wt%, and more preferably from 0.2 to 2.5 wt%. The temperature is 10 to 70° C and preferably 30 to 60°C. The hydrophilization treatment can be performed by immersing the aluminum support having the particle layer in the solution for 0.5 second to 10 minutes, preferably from 1 to 30 seconds.

Attorney's Docket No. 019 Application No. 10/022

Please replace the paragraph beginning on page 146, line 15, with the following amended paragraph:

The heat-sensitive layer is prepared by dissolving the above-described each component in a solvent to prepare a coating solution and coating the coating solution on a resin layer. The examples of the solvents used include ethylene dichloride, cyclohexanone, methyl ethyl ketone, methanol, ethanol, propanol, ethylene glycol monomethyl ether, 1-methoxy-2-propanol, 2-methoxyethyl acetate, 1-methoxy-2-propyl acetate, dimethoxyethane, methyl lactate, ethyl lactate, N,N-dimethylacetamide, N,N-dimethylformamide, tetramethylurea, N-methylpyrrolidone, dimethyl sulfoxide, sulforan sulfolane, y-butyrolactone, toluene, and water, but the present invention is not limited thereto. These solvents are used alone or as mixture. The concentration of the solid content of the coating solution is preferably from 1 to 50 wt%.

Please replace the paragraph beginning on page 160, line 21, with the following amended paragraph:

When the lithographic printing plate precursor according to the present invention uses a heat-sensitive layer containing a fine particle polymer having a heat-reactive functional group or microcapsules containing (i.e., encapsulating) a compound having a heat-reactive functional group, the lithographic printing plate precursor can be loaded on a printing machine without requiring any further process, and printing can be performed using ink and a fountain solution by an ordinary procedure. In this case, the printing plate precursor can also be subjected to exposure eith with a laser, after being mounted on the

703 836 2021 P.10/20

Attorney's Docket No. 019519-342 Application No. 10/022,244

Page 9

plate cylinder of the printing machine, by the laser installed on the printing machine, and then development on machine with a fountain solution and/or an ink, as disclosed in Japanese patent 2938398.

Please replace the heading beginning on page 162, line 1, with the following amended heading:

EXAMPLE

EXAMPLES

Please replace the paragraph beginning on page 184, line 21, with the following amended paragraph:

Behenic acid (5 mg), 41 mg of PMMA (Aldorich Aldrich, average molecular weight: 99,600 (GPC)), 8 mg of Cyabsorb IR-165 (manufactured by American Cyanamid) were dissolved in 13 ml of chloroform, thereby the image-forming layer (prescription C) was prepared.